

## SINGLE IMMEDIATE DENTURE FOR A DIABETIC PATIENT- A CASE REPORT

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### ABSTRACT

*This clinical case report describes the treatment of fabricating immediate denture before the removal of the teeth and is inserted immediately after extraction of remaining teeth. This reduces edema, promotes healing and maintains patient's appearance, circumoral support, muscle tone, vertical dimension of occlusion, jaw relation and facial height.*

**KEYWORDS:** *Inserted Immediately, Circumoral Support, Dimension of Occlusion*

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### INTRODUCTION

Esthetics is the foremost concern for most dental patients. Immediate denture is one of the treatment options that can be undertaken during the period of edentulism between extraction and insertion of a definitive complete denture.

The success of immediate complete denture greatly depends on a correct diagnosis, detailed treatment planning and precise execution of the fabrication procedure.

Prior to the beginning of the treatment the patient should be introduced to the concept, explained about the treatment plan, advantages and possible difficulties of immediate dentures. In this way acceptance and cooperation of the patient is assured.

### CASE REPORT

A female patient aged 39 years, came to the Department of Prosthodontics with the chief complaint of missing teeth in the upper front teeth region and desired to replace it.

She gave a history of missing teeth for past ten years and underwent fixed partial denture replacement ten years back. Before two weeks of reporting to the department, patient met with an accident and fractured two upper right back teeth which were subsequently extracted.

She gives medical history of diabetes for past 5 years and is under medication for past 5 years. She is also a known hypertensive for past 2 years and is under medication for past 2 years.

She gives a dental history of fixed partial denture in lower front teeth region for past 5 years.

On oral examination, we detected missing 21, 11, 12, 13, 14, 15, 16, fixed partial denture in relation to 33, 32, 31, 41, 42, 43, 44, tooth preparation for fixed partial denture was done in 22, grade I mobility in 25, 24, 23, 22, 17, 35, 45, grade II mobility in 18, 38, 46, 47, 48, grade III mobility in 27, 26, generalized gingival recession and furcation involvement on 36, 46, 47.

Patient was diagnosed as partially edentulous with poor periodontal support of remaining teeth. So she was advised with a treatment plan of immediate complete upper denture.

Patient was referred to hematology laboratory for blood investigation. She had a random blood sugar of 184mg/dl and hemoglobin of 10.4g/dl.

Patient was later referred to medical college to control the blood sugar level. A gradual decrease in blood sugar level (150mg/dl) was reported after a week.

Patient was then referred to Department of oral and maxillofacial surgery for opinion of extraction of all maxillary teeth in a single visit. They suggested that extraction of all maxillary teeth in a single visit with a need of suturing in 2<sup>nd</sup> quadrant and insisted on the use of tissue conditioner for healing of socket after immediate denture placement subsequent to extraction.

A consent form was signed by the patient regarding the chance of extraction of teeth during impression making. Primary impression of maxilla and mandible were made with alginate. Cast was poured with die stone. Denture base was fabricated and occlusal rim was made. Then bite registration was recorded and transferred to the articulator (mean value articulator). Teeth were arranged and anterior wax trial completed.

The remaining teeth were removed from the cast and artificial teeth were arranged replacing the natural teeth which is to be extracted followed by flasking, dewaxing, curing, trimming and polishing of the denture.

A surgical stent was fabricated on a modified maxillary cast from which all remaining teeth were trimmed out, with self cure clear acrylic and sent to Department of Oral and Maxillofacial Surgery to check the fit of the stent after extraction of all remaining maxillary teeth.

In the Department of Oral and Maxillofacial Surgery, 8 maxillary teeth 16, 17, 22, 23, 24, 25, 26, 27 were extracted after giving local anesthesia (infiltration) and the surgical stent were placed and the fit checked. Then she was sent to Department of Prosthodontics where the immediate denture was inserted with the tissue conditioner and occlusion checked.

## **DISCUSSIONS**

Immediate denture service, is one of the finest contribution that dentistry has offered to patients during the immediate period following edentulism.

It is classified into 2 types- conventional immediate denture and interim (or transitional) immediate denture.

Conventional immediate denture is any removable dental prosthesis fabricated for placement immediately following the removal of natural tooth/ teeth. It is indicated when only the anterior teeth remains and posterior residual ridges are well healed. Following extraction of anterior teeth an immediate denture is provided which only needs to be relined after healing period.

Interim denture is a removable dental prosthesis designed to enhance aesthetics, stabilization and / or function for a limited period of time, after which it is to be replaced by definitive prosthesis. It is indicated when both anterior and posterior teeth are to be extracted before immediate dentures are provided. New definitive complete dentures are fabricated after the healing period.

Indications for the use of immediate dentures are patients needs or demands (socially active and self conscious people) and multiple extractions (periodontally weak teeth).

Immediate denture are contraindicated in patients with poor general health or debilitating disease, surgical risks (multiple extraction might be unwise because of systemic conditions like cardiac disease, uncontrolled diabetes, blood dyscrasia and those with slow healing potential), psychological disorders and also in uncooperative conditions.

The advantages are improved self confidence, act as a stent over the surgical site, reduces edema and promotes healing, patient is less apprehensive, patient's appearance, circumoral support, muscle tone, vertical dimension of occlusion, jaw relation and facial height are maintained and also the natural teeth acts as a guide for artificial teeth.

The drawbacks of immediate denture is that it requires more chairside time, additional appointments and cost. Bone resorption and shrinkage of unhealed soft tissue is greater and faster than the changes in healed tissues. These changes may require frequent relining.

### **INSTRUCTIONS TO PATIENT**

- Patient should avoid rinsing, drinking hot liquids and is instructed not to remove the immediate denture during the first 24 hours.
- The diet for the first 24 hours should be liquid or soft.
- Analgesics can also be prescribed if required.

The first extensive rebasing is performed after 3 months. After 10 to 14 months the denture is made permanent by rebasing. A new denture is fabricated after 2 years if necessary.

### **CONCLUSIONS**

Immediate denture is one of the versatile treatment modalities to prevent intermediate edentulous period of the patient. Proper follow up care is essential for success of an immediate denture.

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## APPENDICES



**Figure 1: Preoperative Extra Oral View**



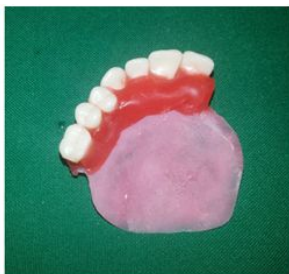
**Figure 2: Preoperative Intraoral View**



**Figure 3: Primary Impression**



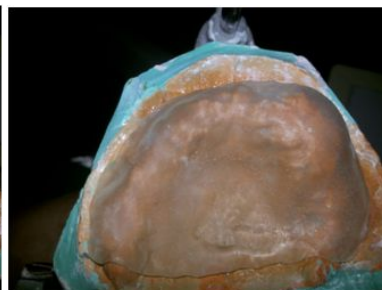
**Figure 4: Primary Cast**



**Figure 5: Wax Trail**



**Figure 6: Modified Cast**



**Figure 7: Surgical Stent**





**Figure 8: Artificial Teeth Arranged on Modified Cast**



**Figure 9: Post Operative Intra Oral View**



**Figure 10: Post Operative Extra Oral View**

